

ABSTRACT

A wavelength-division-multiplexed passive optical network using an economical multi-wavelength lasing source and a reflective optical amplification device is disclosed.

The wavelength-division-multiplexed passive optical network includes a central office in

5 which a multi-wavelength lasing source is located; a plurality of subscriber terminals for transmitting an upward signal by a refection signal of a multi-wavelength signal transmitted from the central office; and a local office, which is connected among the central office and the subscriber terminals through transmission optical fibers, for demultiplexing the multi-wavelength signal transmitted from the central office and transmitting the demultiplexed

10 signal to the subscriber terminals, and for multiplexing signals inputted from each of the subscriber terminals and transmitting the multiplexed signals to the central office.